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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,091	06/19/2003	Hong Xin	PP-01451.105	6161
27476	7590	12/15/2006	EXAMINER	
NOVARTIS VACCINES AND DIAGNOSTICS INC. CORPORATE INTELLECTUAL PROPERTY R338 P.O. BOX 8097 Emeryville, CA 94662-8097			MARTINELL, JAMES	
			ART UNIT	PAPER NUMBER
			1634	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,091

Applicant(s)

XIN ET AL.

Examiner

James Martinell

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-13, 16, 18-21, 23, 25, 27, 29, 30, 32, 36, 39, 40 and 42-54 is/are pending in the application.
- 4a) Of the above claim(s) 29, 30, 32, 42, 43, 48 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-13, 16, 18-21, 23, 25, 27, 36, 39, 40, 44-47 and 50-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/19/03 & 7/19/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Applicant's election with traverse of the requirement for restriction in the reply filed on October 5, 2006 is acknowledged. The traversal is on the ground(s) that there is no undue burden of search to search Groups III and V and SEQ ID NOs: 1 and 11. This is not found persuasive because applicants have pointed to no structural relationship between SEQ ID NOs: 1 and 11. Searching is based on structural (*i.e.* sequence) relationships. Groups III and V are separate and distinct because Group V is concerned with measurement of gene expression products and not with the cDNA sequences *per se*.

The requirement is still deemed proper and is therefore made FINAL.

Claims 29, 30, 32, 42, 43, 48, and 49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. In addition, SEQ ID NO: 11 is withdrawn from consideration. Applicant timely traversed the restriction (election) requirement in the reply filed on October 5, 2006.

The drawings are objected to for the following reasons.

- (a) The specification does not discuss Figures 3A, 3B, and 3C separately (*e.g.*, see page 6 of the application). This objection may be overcome by amendment to the description, drawings, or both.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities.

- (a) A blank appears at page 1, line 3.
- (b) The instant application does not comply with the Sequence Rules (37 CFR §§ 1.821-1.825) because sequences appear without SEQ ID NO identifiers in at least the following locations, Figures 2A-1, 2A-2, 2B, 3A, 3B, and 3C. In order for any response to this Office action to be considered a complete response, the application must be amended to comply with the Sequence Rules. See MPEP 2422 and 37 CFR § 1.821(d).

Appropriate correction is required.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant application does not adequately describe the genes mentioned in the claim. In *Vas-Cath v Mahurkar*, 19 USPQ2d 1111 (Fed. Cir. 1991) the court stated, "applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*" (emphasis in the

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original) (*Vas-Cath* at page 1117). The instant application does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is now claimed" (*Vas-Cath* at page 1116). In *Fiers v. Sugano*, 25 USPQ2d 1601 (Fed. Cir. 1993), the court also held that, "An adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference a potential method for isolating it; what is required is a description of the DNA itself" (*Fiers v. Sugano*, page 1606). This view was reiterated in *Fiddes v. Baird*, USPQ2d 1481 (BPAI 1993) at page 1483, "If a conception of a DNA requires a specific definition, such as by structure, formula, chemical name, or physical properties, as we have held, then a description also requires that degree of specificity. . . . one cannot describe what one has not conceived." The court amplified this notion with respect to inventions claiming genetic material in *Regents of the University of California v. Eli Lilly*, 43 USPQ2d 1398 (Fed. Cir. 1997), stating at page 1406,

"In claims to genetic material, however, a generic statement such as 'vertebrate insulin cDNA' or 'mammalian insulin cDNA,' without more, is not an adequate written description of the genus because it does not distinguish the claimed genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. . . . Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material."

Claims 11-13, 16, 18-21, 23, 25, 27, 36, 39, 40, 44-47, and 50-54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague, indefinite, and incomplete.

- (a) Claims 11-13, 16, 19, 21, 23, 25, 27, 29, 36, 39, 40, 44, and 46 claim more than was elected (*i.e.* SEQ ID NO: 11).
- (b) The recitation of "subgenomic polynucleotide" (claims 19 and 20) is vague and indefinite because the term is not defined and it has no clear art-recognized meaning.

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- (c) The recitation of "a gene" (claim 25) is vague and indefinite because the instant application does not clearly define the term and the term has no clear art-recognized single meaning.
- (d) The recitation of "detectable label" (claim 27) is vague and indefinite because the instant application does not distinguish a detectable label from an undetectable label.
- (e) Claim 50 is incomplete because it depends from cancelled claim 1.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13, 16, 19, 20, 27, 36, and 44-46 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Powell et al (U.S. Patent No. 6,025,180). Powell et al discloses a nucleic acid that over its total length of 1862 nucleotides matches SEQ ID NO: 1 at 1400 positions (see the alignment below). Thus, the nucleic acid of Powell et al is embraced by the claims. Powell et al teaches PCR amplification (*e.g.*, see column 10, line 52 through column 11, line 42 and column 16, lines 30-67), thus, any primers for the nucleic acid sequence of Powell et al are embraced by claim 36.

ALIGNMENT OF SEQ ID NO: 1 WITH SEQ ID NO: 1 OF U.S. Patent No. 6,025,180

RESULT 27

US-08-999-723-1

; Sequence 1, Application US/08999723A

; Patent No. 6025180

; GENERAL INFORMATION:

; APPLICANT: Powell, David J.

; APPLICANT: Southan, Christopher

; APPLICANT: Chapman, Conrad G.

; APPLICANT: Evans, Joanne R.

; TITLE OF INVENTION: ASP1

; FILE REFERENCE: GH70262

; CURRENT APPLICATION NUMBER: US/08/999,723A

; CURRENT FILING DATE: 1997-10-06

; NUMBER OF SEQ ID NOS: 2

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 1

; LENGTH: 1862

; TYPE: DNA

; ORGANISM: Homo sapiens

US-08-999-723-1

Query Match 55.6%; Score 1350; DB 3; Length 1862;

Best Local Similarity 99.9%; Pred. No. 0;

Matches 1400; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy      268 AACCCCGCACTCCTACATAGACACGTACTTTGACACAGAGAGGTCTAGCACATACCGCTC 327
          |||
Db      450 AACCCCGCACTCCTACATAGACACGTACTTTGACACAGAGAGGTCTAGCACATACCGCTC 509

Qy      328 CAAGGGCTTTGACGTCACAGTGAAGTACACACAAGGAAGCTGGACGGGCTTCGTTGGGGA 387
          |||
Db      510 CAAGGGCTTTGACGTCACAGTGAAGTACACACAAGGAAGCTGGACGGGCTTCGTTGGGGA 569

Qy      388 AGACCTCGTCACCATCCCCAAGGCTTCAATACTTCTTTTCTGTCAACATTGCCACTAT 447
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Db 570 ||||| AGACCTCGTCACCATCCCCAAGGCTTCAATACTTCTTTCTGTCAACATTGCCACTAT 629

Qy 448 TTTTGAATCAGAGAATTTCTTTTGCCTGGGATTAAATGGAATGGAATACTTGGCCTAGC 507

Db 630 ||||| TTTTGAATCAGAGAATTTCTTTTGCCTGGGATTAAATGGAATGGAATACTTGGCCTAGC 689

Qy 508 TTATGCCACACTTGCCAAGCCATCAAGTTCTCTGGAGACCTTCTTCGACTCCCTGGTGAC 567

Db 690 ||||| TTATGCCACACTTGCCAAGCCATCAAGTTCTCTGGAGACCTTCTTCGACTCCCTGGTGAC 749

Qy 568 ACAAGCAAACATCCCCAACGTTTCTCCATGCAGATGTGTGGAGCCGGCTTGCCCGTTGC 627

Db 750 ||||| ACAAGCAAACATCCCCAACGTTTCTCCATGCAGATGTGTGGAGCCGGCTTGCCCGTTGC 809

Qy 628 TGGATCTGGGACCAACGGAGGTAGTCTTGTCTTGGGTGGAATTGAACCAAGTTGTATAA 687

Db 810 ||||| TGGATCTGGGACCAACGGAGGTAGTCTTGTCTTGGGTGGAATTGAACCAAGTTGTATAA 869

Qy 688 AGGAGACATCTGGTATACCCCTATTAAGGAAGAGTGGTACTACCAGATAGAAATTCTGAA 747

Db 870 ||||| AGGAGACATCTGGTATACCCCTATTAAGGAAGAGTGGTACTACCAGATAGAAATTCTGAA 929

Qy 748 ATTGGAATTTGGAGGCCAAAGCCTTAATCTGGACTGCAGAGAGTATAACGCAGACAAGGC 807

Db 930 ||||| ATTGGAATTTGGAGGCCAAAGCCTTAATCTGGACTGCAGAGAGTATAACGCAGACAAGGC 989

Qy 808 CATCGTGGACAGTGGCACCACGCTGCTGCGCCTGCCCCAGAAGGTGTTTGATGCGGTGGT 867

Db 990 ||||| CATCGTGGACAGTGGCACCACGCTGCTGCGCCTGCCCCAGAAGGTGTTTGATGCGGTGGT 1049

Qy 868 GGAAGCTGTGGCCCGCGCATCTCTGATTCCAGAATTCTCTGATGGTTTCTGGACTGGGTC 927

Db 1050 ||||| GGAAGCTGTGGCCCGCGCATCTCTGATTCCAGAATTCTCTGATGGTTTCTGGACTGGGTC 1109

Qy 928 CCAGCTGGCGTGCTGGACGAATTCGGAACACCTTGGTCTTACTTCCCTAAATCTCCAT 987

Db 1110 ||||| CCAGCTGGCGTGCTGGACGAATTCGGAACACCTTGGTCTTACTTCCCTAAATCTCCAT 1169

Qy 988 CTACCTGAGAGATGAGAACTCCAGCAGGTCAATCCGTATCACAATCCTGCCTCAGCTTTA 1047

Db 1170 ||||| CTACCTGAGAGACGAGAACTCCAGCAGGTCAATCCGTATCACAATCCTGCCTCAGCTTTA 1229

Qy 1048 CATTCAGCCCATGATGGGGGCCGCTGAATTATGAATGTTACCGATTTCGGCATTTCCCC 1107

Db 1230 ||||| CATTCAGCCCATGATGGGGGCCGCTGAATTATGAATGTTACCGATTTCGGCATTTCCCC 1289

Qy 1108 ATCCACAAATGCGCTGGTGATCGGTGCCACGGTGATGGAGGGCTTCTACGTCATCTTCGA 1167

Db 1290 ||||| ATCCACAAATGCGCTGGTGATCGGTGCCACGGTGATGGAGGGCTTCTACGTCATCTTCGA 1349

Qy 1168 CAGAGCCCAGAAGAGGGTGGGCTTCGCAGCGAGCCCCTGTGCAGAAATTGCAGGTGCTGC 1227

Db 1350 ||||| CAGAGCCCAGAAGAGGGTGGGCTTCGCAGCGAGCCCCTGTGCAGAAATTGCAGGTGCTGC 1409

Qy 1228 AGTGTCTGAAATTTCCGGGCCTTTCTCAACAGAGGATGTAGCCAGCAACTGTGTCCCGC 1287

Db 1410 ||||| AGTGTCTGAAATTTCCGGGCCTTTCTCAACAGAGGATGTAGCCAGCAACTGTGTCCCGC 1469

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Qy      1288 TCAGTCTTTGAGCGAGCCCATTTTGTGGATTGTGTCTATGCGCTCATGAGCGTCTGTGG 1347
          |||
Db      1470 TCAGTCTTTGAGCGAGCCCATTTTGTGGATTGTGTCTATGCGCTCATGAGCGTCTGTGG 1529

Qy      1348 AGCCATCCTCCTTGTCTTAATCGTCCTGCTGCTGCTGCCGTTCCGGTGTGAGCGTCGCCC 1407
          |||
Db      1530 AGCCATCCTCCTTGTCTTAATCGTCCTGCTGCTGCTGCCGTTCCGGTGTGAGCGTCGCCC 1589

Qy      1408 CCGTGACCCTGAGGTCGTCAATGATGAGTCCTCTCTGGTCAGACATCGCTGGAAATGAAT 1467
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Db      1590 CCGTGACCCTGAGGTCGTCAATGATGAGTCCTCTCTGGTCAGACATCGCTGGAAATGAAT 1649

Qy      1468 AGCCAGGCCTGACCTCAAGCAACCATGAACCTCAGCTATTAAGAAAATCACATTTCCAGGG 1527
          |||
Db      1650 AGCCAGGCCTGACCTCAAGCAACCATGAACCTCAGCTATTAAGAAAATCACATTTCCAGGG 1709

Qy      1528 CAGCAGCCGGGATCGATGGTGGCGCTTTCTCCTGTGCCACCCGTCTTCAATCTCTGTTC 1587
          |||
Db      1710 CAGCAGCCGGGATCGATGGTGGCGCTTTCTCCTGTGCCACCCGTCTTCAATCTCTGTTC 1769

Qy      1588 TGCTCCCAGATGCCTTCTAGATTCACTGTCTTTTGATTCTTGATTTTCAAGCTTTCAAAT 1647
          |||
Db      1770 TGCTCCCAGATGCCTTCTAGATTCACTGTCTTTTGATTCTTGATTTTCAAGCTTTCAAAT 1829

Qy      1648 CCTCCCTACTTCCAAGAAAAA 1668
          |||
Db      1830 CCTCCCTACTTCCAAGAAAAA 1850

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Claims 13, 16, 19, 20, 27, and 44-46 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hillier et al (GenBank® Accession No. AA056282 (November 29, 1996)). Hillier et al discloses a nucleic acid that over its total length of 618 nucleotides matches SEQ ID NO: 1 at 541 positions (see the alignment below). Thus, the nucleic acid of Hillier et al is embraced by the claims.

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RESULT 54
AA056282
LOCUS      AA056282                618 bp    mRNA    linear    EST 29-NOV-1996
DEFINITION ze24b09.r1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA clone
            IMAGE:359897 5', mRNA sequence.
ACCESSION  AA056282
VERSION    AA056282.1  GI:1548686
KEYWORDS   EST.
SOURCE     Homo sapiens (human)
ORGANISM   Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
            Hominidae; Homo.
REFERENCE  1 (bases 1 to 618)
AUTHORS   Hillier,L., Clark,N., Dubuque,T., Elliston,K., Hawkins,M.,

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Holman,M., Hultman,M., Kucaba,T., Le,M., Lennon,G., Marra,M.,
 Parsons,J., Rifkin,L., Rohlfing,T., Soares,M., Tan,F.,
 Trevaskis,E., Waterston,R., Williamson,A., Wohldmann,P. and
 Wilson,R.

TITLE The WashU-Merck EST Project
 JOURNAL Unpublished (1995)
 COMMENT Contact: Wilson RK
 Washington University School of Medicine
 4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
 Tel: 314 286 1800
 Fax: 314 286 1810
 Email: est@watson.wustl.edu
 This clone is available royalty-free through LLNL ; contact the
 IMAGE Consortium (info@image.llnl.gov) for further information.
 Putative full length read
 The vector to vector length is 619
 Insert Length: 404 Std Error: 0.00
 Seq primer: -28M13 rev2 from Amersham
 High quality sequence stop: 448.

FEATURES
 source Location/Qualifiers
 1. .618
 /organism="Homo sapiens"
 /mol_type="mRNA"
 /db_xref="GDB:1276441"
 /db_xref="taxon:9606"
 /clone="IMAGE:359897"
 /sex="unknown"
 /dev_stage="19 weeks"
 /lab_host="DH10B (ampicillin resistant)"
 /clone_lib="Soares_fetal_heart_NbHH19W"
 /note="Organ: heart; Vector: pT7T3D (Pharmacia) with a
 modified polylinker; Site_1: Not I; Site_2: Eco RI; 1st
 strand cDNA was primed with a Not I - oligo(dT) primer [5'
 TGTACCAATCTGAAGTGGGAGCGCCGCATCTTTTTTTTTTTTTTTT 3'],
 double-stranded cDNA was size selected, ligated to Eco RI
 adapters (Pharmacia), digested with Not I and cloned into
 the Not I and Eco RI sites of a modified pT7T3 vector
 (Pharmacia). Library went through one round of
 normalization to a Cot = 5. Library constructed by
 M.Fatima Bonaldo. This library was constructed from the
 same fetus as the fetal lung library, Soares fetal lung
 NbHL19W."

ORIGIN

Query Match 22.3%; Score 541; DB 1; Length 618;
 Best Local Similarity 100.0%; Pred. No. 3.4e-267;
 Matches 541; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1798 CTTCTCTCTTCAATCTCTGGAAAAATAAGTACATATAGTTGATAACCCCTCTTAGCTTAC 1857
 |||
 Db 1 CTTCTCTCTTCAATCTCTGGAAAAATAAGTACATATAGTTGATAACCCCTCTTAGCTTAC 60

Qy 1858 AGGAAGCTTTTGTATTAATTGCCTTTGAGGTTATTTCCGCCAGACCTCAACCTGGGTC 1917
 |||
 Db 61 AGGAAGCTTTTGTATTAATTGCCTTTGAGGTTATTTCCGCCAGACCTCAACCTGGGTC 120

Qy 1918 AAAGTGGTACAGGAAGGCTTGAGTATGATGGCAGGAGAATCAGCCTGGGGCCTGGGGAT 1977
 |||
 Db 121 AAAGTGGTACAGGAAGGCTTGAGTATGATGGCAGGAGAATCAGCCTGGGGCCTGGGGAT 180

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Qy      1978 GTAACCAAGCTGTACCCTTGAGACCTGGAACCAGAGCCACAGGCCCTTTTGTGGGTTTC 2037
          |||
Db      181 GTAACCAAGCTGTACCCTTGAGACCTGGAACCAGAGCCACAGGCCCTTTTGTGGGTTTC 240

Qy      2038 TCTGTGCTCTGAATGGGAGCCAGAATTCAGTAGGAGGTCATCAACCGATGGTCCTCACAA 2097
          |||
Db      241 TCTGTGCTCTGAATGGGAGCCAGAATTCAGTAGGAGGTCATCAACCGATGGTCCTCACAA 300

Qy      2098 GCCTCTTCTGAAGATGGAAGGCCTTTTGCCCGTTGAGGTAGAGGGGAAGGAAATCTCCTC 2157
          |||
Db      301 GCCTCTTCTGAAGATGGAAGGCCTTTTGCCCGTTGAGGTAGAGGGGAAGGAAATCTCCTC 360

Qy      2158 TTTTGTACCCAATACTTATGTTGTATTGTTGGTGCGAAAGTAAAAACACTACCTCTTTTG 2217
          |||
Db      361 TTTTGTACCCAATACTTATGTTGTATTGTTGGTGCGAAAGTAAAAACACTACCTCTTTTG 420

Qy      2218 AGACTTTGCCCAGGGTCCTGTGCCTGGATGGGGGTGCAGGCAGCCTTGACCACGGCTGTT 2277
          |||
Db      421 AGACTTTGCCCAGGGTCCTGTGCCTGGATGGGGGTGCAGGCAGCCTTGACCACGGCTGTT 480

Qy      2278 CCCCTCACCCAAAAGAATTATCATCCCAACAGCCAAGACCCAACAGGTGCTGAACTGTGC 2337
          |||
Db      481 CCCCTCACCCAAAAGAATTATCATCCCAACAGCCAAGACCCAACAGGTGCTGAACTGTGC 540

Qy      2338 A 2338
          |
Db      541 A 541

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Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hillier et al (GenBank® Accession No. AA056282 (November 29, 1996) in view of applicants' admitted state of the prior art (*e.g.*, page 43, lines 20-22 of the application). Hillier et al discloses a nucleic acid that over its total length of 618 nucleotides matches SEQ ID NO: 1 at 541 positions (see the alignment above). Applicants acknowledge PCR amplification to be old (*e.g.*, instant application at page 43, lines 20-22). It would have been obvious for one of ordinary skill in the art at the time the invention was made to have constructed primers to hybridize to any portions of the nucleic acid disclosed by Hillier et al in order to make multiple copies of the DNA bounded by the primers for further analysis or production purposes.

Claims 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Powell et al (U.S. Patent No. 6,025,180) or Hillier et al (GenBank® Accession No. AA056282 (November 29, 1996) in view of applicants' admitted state of the prior art (*e.g.*, page 41, lines 11-23 of the application). Powell et al discloses a nucleic acid that over its total length of 1862 nucleotides matches SEQ ID NO: 1 at 1400 positions (see the alignment above). Hillier et al discloses a nucleic acid that over its total length of 618 nucleotides matches SEQ ID NO: 1 at 541 positions (see the alignment above).

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Applicants acknowledge use of arrays for nucleic acid detection to be old (*e.g.*, instant application at page 41, lines 11-23). It would have been obvious for one of ordinary skill in the art at the time the invention was made to have constructed arrays containing the nucleic acids or fragments of the nucleic acids disclosed in either one of Powell et al or Hillier et al in order to detect the nucleic acids of either one of Powell et al or Hillier et al in a given sample.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (571) 272-0719.

The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be e-mailed to james.martinell@uspto.gov. Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571) 272-0735.

OFFICIAL FAX NUMBER

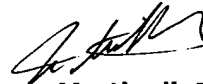
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James Martinell, Ph.D.
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